

CENTRAL INTELLIGENCE AGENCY

REPORT

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History

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SUBJECT

Capability of Hungary to Produce Increased Quantities of Munitions to Supply Larger Requirements from the West and New Requirements from Poland and Czechoslovakia

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**SUPPLEMENT TO
REPORT NO.**

REPORT OF INFORMATION

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THIS IS UNEVALUATED INFORMATION

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1. Bauxite was first mined in Hungary during World War I. A [] company began mining operations in Bihor county, Transylvania, which now belongs to Romania. These operations were not extensive and after the war were entirely abandoned.
2. The Alcoa-Hungary Bauxite & T (Alcoa-Hungary Ore-Mining Company) was founded in 1935, and mining operations began in the Transylvania section of present-time Hungary. This company controlled roughly 90% of the Hungarian bauxite mining until the end of World War II. Another company, [] was organized between the two wars, and during World War II in 1942 still another concern was founded - the Magyar Bauxithut B T (Hungarian Bauxite Mining Co.). Fifty percent of the shares of this company were owned [] shareholders.
3. Hungary ranked among the first three bauxite-producing countries before World War II. War-time peak production was attained in 1943 with an annual rate of one million metric tons.
4. After World War II, the [] shares were expropriated by the Soviet Union, and at the present time virtually the entire Hungarian bauxite mining is controlled by the Soviets.

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CONCLUSIONS

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Reserves of marketable-grade ore (metric tons)

5. (Specifications for bauxite in the USSR and the Satellite States are based on the proportion of alumina to silica contents, usually stated as a modulus or ratio.) Reserves of marketable-grade Hungarian bauxite aggregate from 185 to 215 million tons are as follows:
 - (1) High-grade bauxite, above 12 modulus: (12 units of alumina to each unit of silica), 25 million tons
 - (2) Medium-grade bauxite, between 12 and 7 modulus: 40 million tons
 - (3) Low-grade marginal bauxite, between 7 and 5 modulus: 120 to 150 million tons..
6. The present-day Hungarian alumina industry is incapable of processing medium-grade ore. All bauxite used must at least have a modulus greater than 10. The ore demanded by USSR must contain not less than 12 units of alumina to one silica, modulus 12. Only the Czech alumina industry will be capable of processing bauxite of seven modulus according to the terms of the Hungarian-Czech Aluminum Agreement.

Possibility of developing new reserves through accelerated exploration.

7. Before and during World War II, the bulk of Hungarian bauxite was produced by mines at Bart. These deposits will be exhausted in the near future: therefore the mines at Iszakszentgyörgy must take over the role of those of Bart and will produce for a considerable portion of the total domestic production. The quality of this bauxite will meet the requirements of the Hungarian and the USSR alumina industry.
8. The Hérszegy bauxite occurrences are among the most promising remaining deposits, but the possibilities of successful exploitation are remote. These were known during the war, but there were enormous difficulties involved with the problem of railroad transportation. This area is north of the Danube and is about 15 to 20 kilometers distant from the nearest existing railroad, the Budapest-Eszék-Szék-Lesty line. In addition, the terrain is very hilly, and the differences in elevations between the prospective mines and the existing railroad is about 1500 feet. If the government decides to exploit these deposits, a very sound and far-reaching solution of the problems will be attained. This ore can be exported to Czechoslovakia and East Germany and the Transdanubian reserves will provide the raw material for the domestic industry.

Limiting factors to increasing production of bauxite to 1,400,000 to 1,600,000 and to 2,000,000 annual tons.

9. Future exploitation of the Iszakszentgyörgy area will depend upon the successful application of underground. The ore bed is 80 to 160 meters below the surface. Water to be pumped is estimated at three to five cubic meters per minute in a medium-sized shaft (daily output between 800 and 1,000 metric tons). A considerable amount of mining equipment is necessary, such as centrifugal pumps, electric motors, haulage equipment and pneumatic tools. All such equipment must come from Czechoslovakia or occasionally from the USSR. Before and during World War II such equipment was supplied
10. Exploitation of the Hérszegy deposits, on the other hand, is a financial problem. These deposits also were known during the war, but the exploitation of this area was postponed on account of the financial difficulties.

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11. If the Soviet Union decides to make all these investments necessary to exploit both areas, it will be possible to increase the bauxite production in two years to 1,400,000 tons, and in five years to say, 1,800,000 tons per year. The latter figure is about the extreme limit of Hungarian bauxite production. In any event, production in excess of one million annual tons means forced and premature exploitation of Hungarian bauxite reserves. And the investments were not sound and justifiable even under a peace-time economy.

Transportation difficulties in shipping large tonnages of bauxite to the USSR, Poland or Czechoslovakia.

12. On the basis of an annual production of 1,800,000 metric tons, the domestic alumina industry's annual consumption will be 400 thousand metric tons and about 1,400,000 metric tons of bauxite will be exported. The average capacity of a Hungarian railcar is 15 metric tons. This export can be handled in 100 thousand car loadings per year; in other words, 12,500 per month. (The mining season is roughly eight months in Hungary.) All this transportation must be carried out on two lines, Budapest-Cop (Soviet) and the Budapest-Szob line (Czechoslovakia; Poland, East Germany). All bauxite is produced at present in Transdanubia, and there is only a single railway bridge, at Budapest in Hungary. This constitutes a very serious problem of transportation and in addition there is the problem of the transshipment of the bauxite at the Soviet border on account of the different gauges of the Soviet and Hungarian tracks.

Limiting factors in supplying Poland with 50 thousand tons of alumina and Czechoslovakia with 160 thousand tons a year as well as increasing shipments by 100 thousand annual tons to about 1,200,000 to USSR.

13. The entire capacity of the three existing Hungarian alumina plants is between 200 and 210 thousand tons alumina a year. The domestic alumina and synthetic abrasive industries require about 100 thousand annual tons, leaving 100 to 110 thousand tons a year for export. The alumina industry of Poland to require 50 thousand annual tons, will be supplied entirely by the Hungarian alumina industry, leaving for the Czechoslovak and USSR export only 60 thousand tons a year. In the interval before the domestic Czechoslovak alumina industry can supply its own requirements, there will be a serious shortage in the Hungarian alumina export.
14. The necessity of the expanding of the Hungarian alumina capacity is apparent, but any such increase faces a very serious difficulty. The Hungarian alumina industry at present uses the conventional European Bayer system. A new alumina plant however could not use this system because the quality of the mined bauxite is decreasing. The new plant must use an entirely or economical adequate processing method for low-grade bauxites.
15. As matters stand the Hungarian government will make all efforts to get a suitable process, perhaps from the countries of Western Europe. Manufacture of the necessary equipment will be a serious handicap also. In view of the shortage of cement, the Reducement process appears advantageous on account of its by-product material suitable for cement manufacture. The Iron Curtain countries, however, have no experience at all with this method.

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